Future Force Warrior Networked Effects Organic & Inorganic

50th Annual NDIA Joint Services Small Arms Systems Symposium

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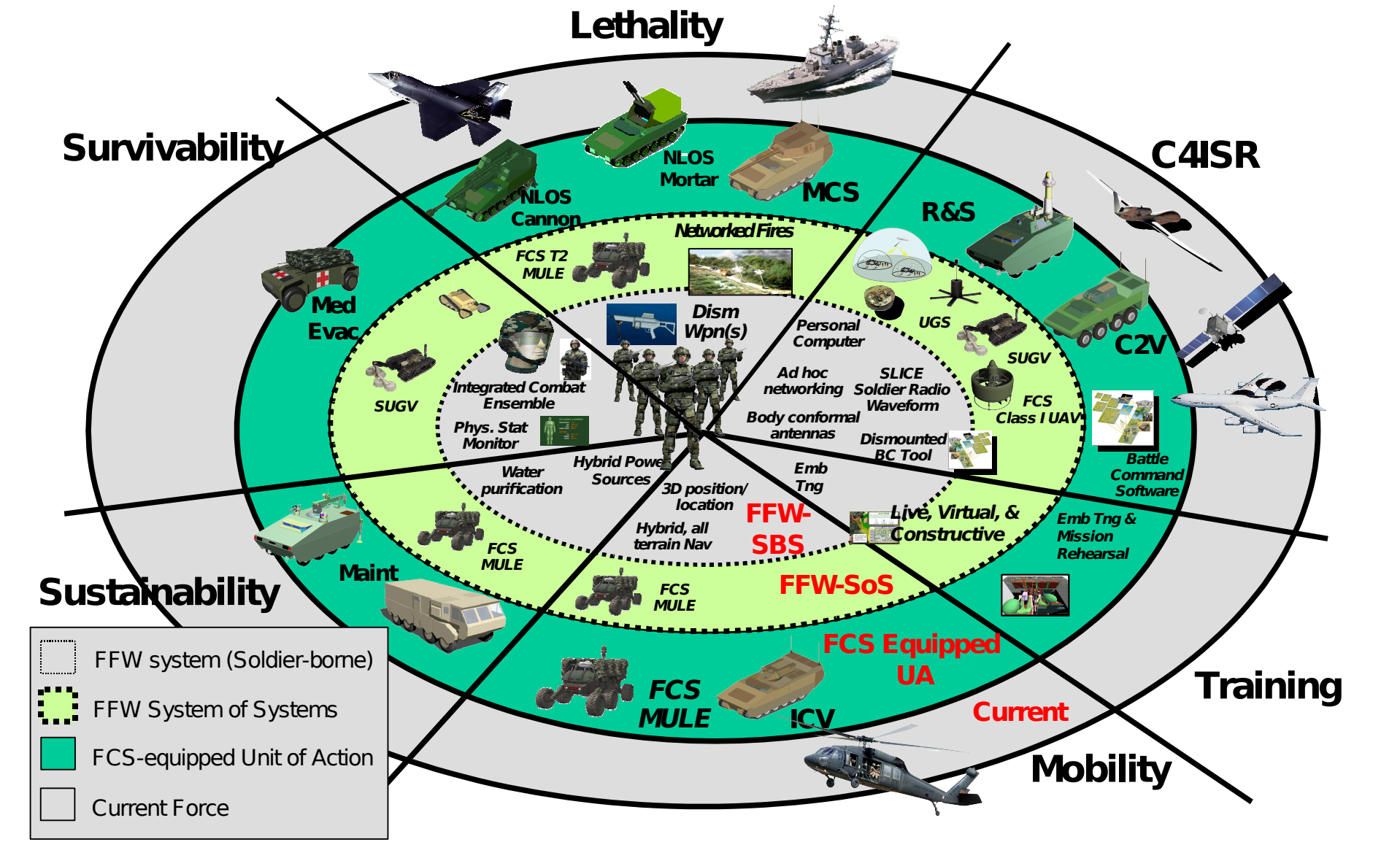
What FFW is

- Purpose:
  - Demonstrate *revolutionary* Soldier and Small Teams capability through integrated system of systems approach
    - **50 lbs fighting load (40 lbs objective),**
    - **24 hr autonomous operations and UoA/FF connectivity**
    - **Integrated C4ISR and Netted Fires for small team with real time linkages to UofA and Joint networks**
    - **Assist TRADOC in defining the requirements for Ground Soldier System – Dismounted CDD (Block III) in spiral fashion throughout ATD to support transition**

- Structure (Other Transaction Authority Agreement):
  - Phase I (AUG 02-APR 03): Two competing Lead Technology Integrators (LTI) develop FFW System of Systems concepts for all soldiers in UoA
  - Phase II (JUN 03-JUL 05): Downselected LTI conducts spiral design phase for dismounted system, including “hooks” for other UoA soldiers (additional UFR); early insertion of mature components into LW
  - Phase III (JUL 05-SEP 06): Fabricated ~25 dismounted systems; train EXPOR; Field experiments/demos with FFW System of Systems organized as a squad with platoon headquarters and lateral squad leaders; transition FFW System of Systems (TRL 6) to PM Sodier Warrior
  - - Option in OTA agreement to continue into LW-AC SDD at PEO Soldier’s discretion

Demonstrating the Soldier System for the Centerpiece of the Future Force

FFW SoS Concept within the Unit of Action



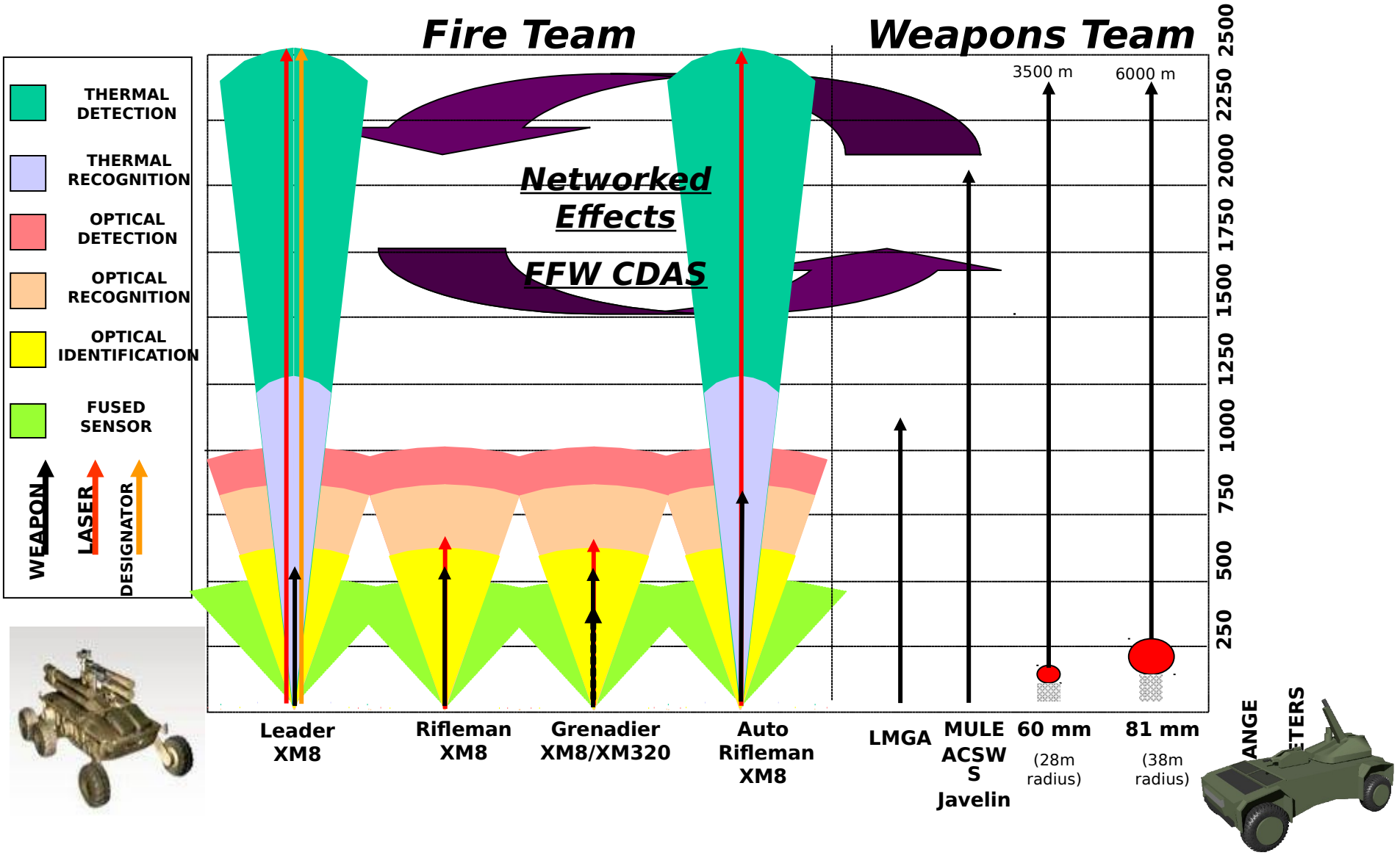
FFW Networked Effects Demonstration Objectives

- The USER evaluation specifically examined whether and how well, using CDAS FFW implementations:
  - The individual FFW soldier, fire team leader, squad leader, and platoon leader could reach back quickly to obtain support from Non-Line-of-Sight (NLOS) and Beyond-Line-of-Sight (BLOS) weapon systems,
  - Leaders could perform distributed fires management of squad-level weapon systems, and
  - Dismounted leaders and soldiers benefited from improved situational awareness

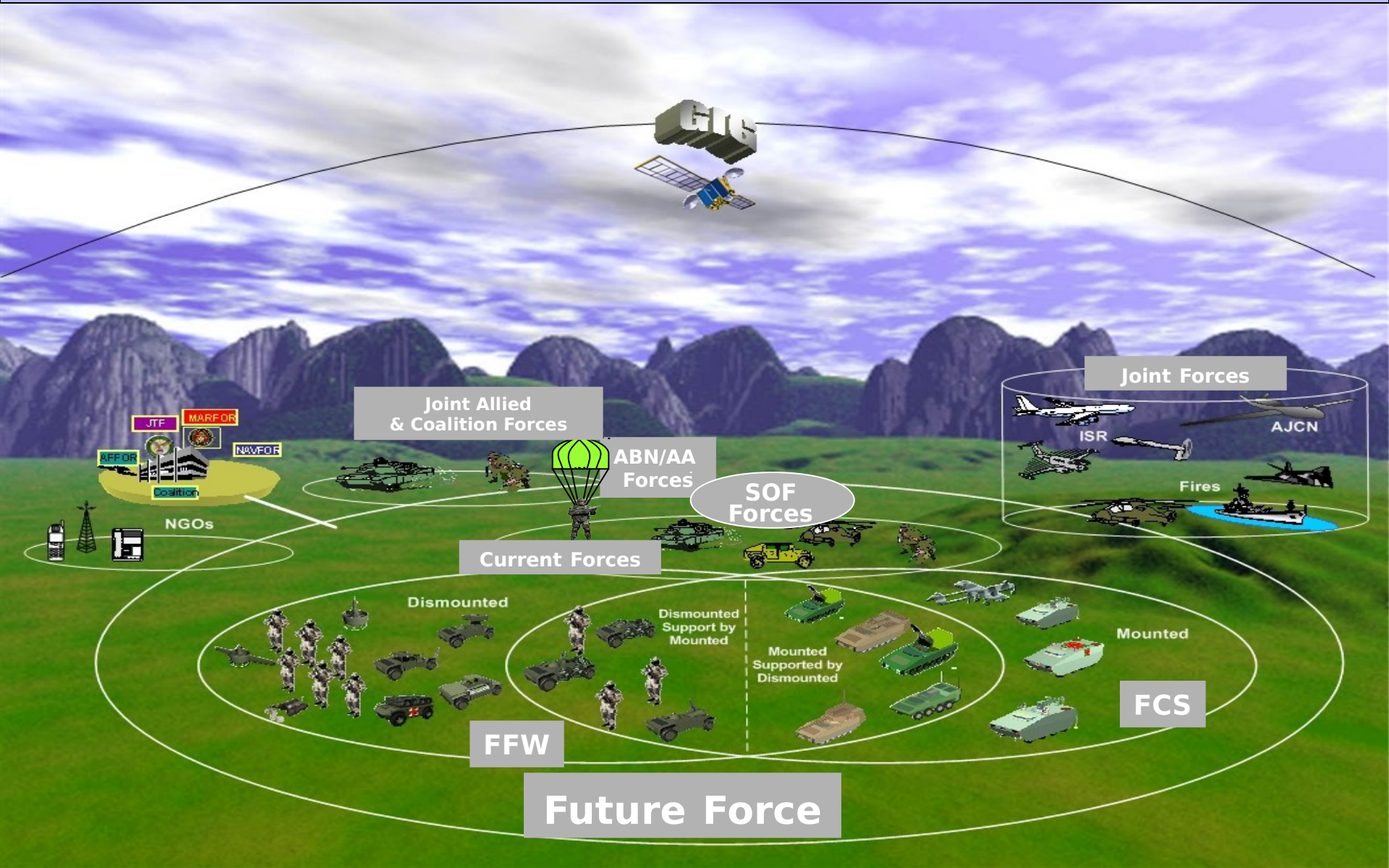
- Demonstration was performed in a virtual standup simulation representing a MOUT and open environments.

- USER evaluation also had parallel research thrusts which include:
  - Collaborative Planning,
  - Logistics Monitoring and Asset Visibility,
  - Terrain Analysis for Sensor Placement,
  - Issuing Digital Orders,
  - Use of Robotic Vehicles,
  - Text Messaging (Instant Messager), and
  - Situational Awareness Monitoring.

FFW Small Combat Unit Lethality



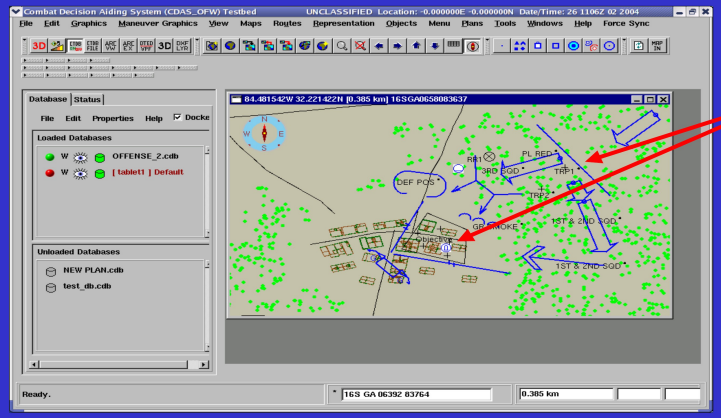
FFW Integration, Interfaces and Interoperability



FFW Networked Effects Progress

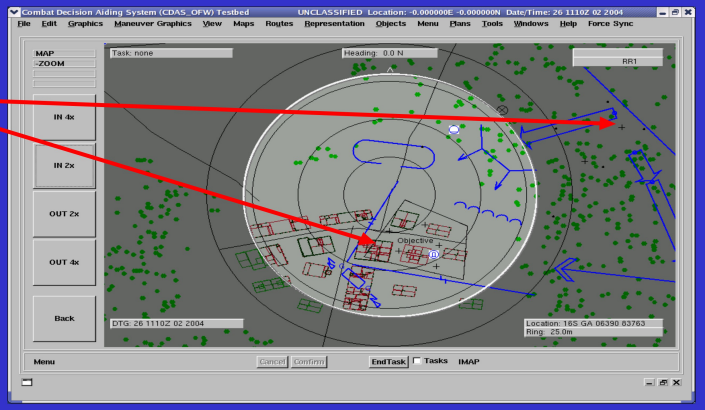
- FFW Soldier BattleLab Demonstrations
  - Feb 2003
  - Jan 2004
  - FFW Networked Effects routines being utilized in joint immersed simulations @SBL w/ Hurbert Field (AF)
- FFW Netted Effects Software Requirement Specification
- Future Force Warrior Lead Technology Integrator will leverage portions of the developed Networked Effects rountines

FFW Leader to Soldier View



Plt Ldr/Sqd Ldr PDA

Preplanned Targets



FFW Soldier CDAS HMD (CDAS Combat View)

Plan developed by Plt Ldr and shared down to Sqd Ldrs, then to all soldiers.

FFW Newtorked Effects Findings

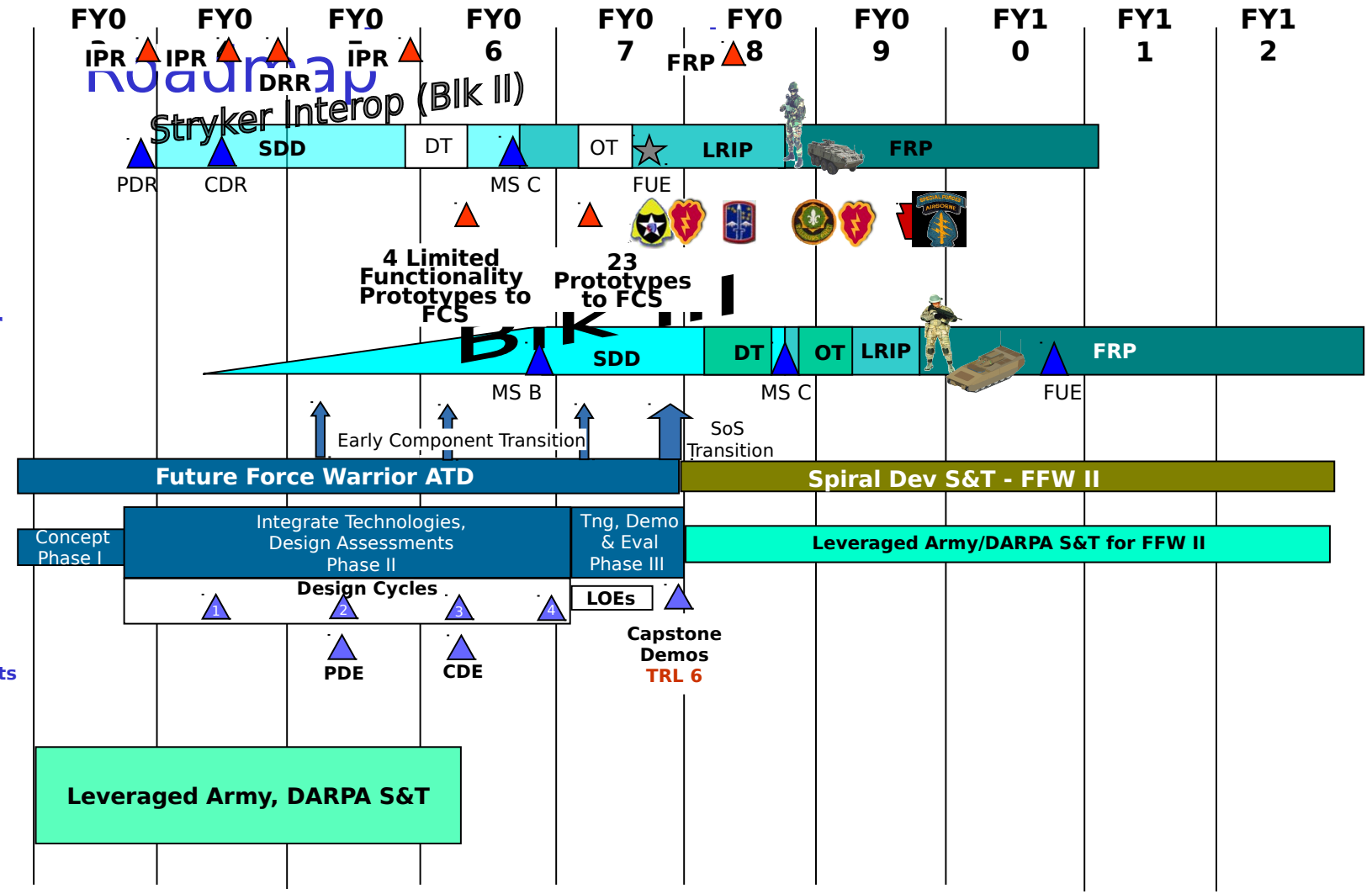
INSIGHTS/FINDINGS

- **Most participants felt effects on target were improved thru call for fire technique rather than using the current voice call for fire as described in FM 6-30, Observed Fire Procedures. All participants felt that the PDA was better than the Combat View or voice call for fire.**

- **The average single mission times was about 40 seconds by a soldier using the PDA from the initial sighting of the target until sending of the call for effects to the CDAS FFW Netted Effects station. This includes the time required to stop moving, extract the PDA from the soldier's pocket, extract the PDA stylus from the PDA, and prepare and send the call for fire. Actual time required to set up and send the mission was on the order of 10 seconds with the PDA and was much less than overall time.**

- **The leaders were able to direct organic assets such as the M203 to engage targets which could not be**

How it applies to the development path; Soldier Systems Acquisition Roadmap



Source: ASB brief 7 May 2004

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